2/PRTS

SAFETY VISOR

TECHNICAL FIELD

The present invention relates to a safety visor which is produced by etching of metal and which comprises a grid defining a large number of light-permeable holes.

BACKGROUND ART

Safety visors for use primarily within forestry are previously known in numerous variations and designs.

As its name suggests, a safety visor is intended to protect the wearer's face, but above all eyes without obscuring the wearer's view to any appreciable degree. There are essentially two risk factors which the safety visor is to reduce or preferably wholly eliminate. First, the safety visor is to keep out flying matter such as dust, sawdust and the like. Secondly, the safety visor must protect against penetration by sharp objects such as small branches, twigs etc. Flying foreign matter often enters obliquely from beneath, while, on the other hand, sharp objects can come from any direction whatever.

There are previously known in the art safety visors which consist of sparsely woven metal wire. Such safety visors can provide adequate protection against flying foreign matter if the mesh is suitably small, but on the other hand, protection against penetration by pointed or sharp objects is considerably poorer, since the individual wires in the safety visor slide in relation to each other.

It is also previously known in the art to produce safety visors by the application of an etching process on sheet metal.

Regardless of whether the safety visor is etched or woven in metal, it naturally obstructs the view of the wearer more or less seriously. In order to obviate this

problem, for example EP 689 812 calls for the manufacture of safety visors from two different materials with a central region of the visor formed from a transparent view plate while the peripheral parts consist of woven metal mesh.

The transparent view plate affords a good view as long as it is new, but is rapidly scratched and as a result deteriorates in quality. Further, a view plate of the type employed here often causes problems by misting over.

PROBLEM STRUCTURE

The present invention has for its object to design the safety visor intimated by way of introduction such that the drawbacks inherent in prior art technology are obviated. In particular, the present invention has for its object to realise a visor which gives maximum unobstructed view within the sectors where this is most important without, to that end, any deterioration taking place in the mechanical strength or any appreciable increase in permeability to flying objects.

SOLUTION

The object forming the basis of the present invention will be attained if the safety visor intimated by way of introduction is characterised in that it has at least two regions where the holes are of different areas and/or configuration.

As a result of this feature, the safety visor can be given a central zone, preferably located in the middle of the visor and at its upper region, where the light transmission is greater than in the rest of the visor. Below and to the sides of this zone, the safety visor displays zones with less light transmission and, as a result, improved mechanical strength and increased protection against flying objects.

BRIEF DESCRIPTION OF THE ACCOMPANYING DRAWINGS

The present invention will now be described in greater detail hereinbelow, with reference to the accompanying Drawings. In the accompanying Drawings:

Fig. 1 shows the left-hand half of a visor designed according to the present invention; and

Fig. 2 shows various part-magnifications A-C of different zones in the safety visor in Fig. 1.

DESCRIPTION OF PREFERRED EMBODIMENT

In Fig. 1, the ghosted line 1 shows a vertical centre line of a visor according to the present invention. This implies that the illustrated part of the visor is the left-hand half of the visor and consequently that the visor has a right-hand half which is a mirror reflection of the illustrated half.

The visor is manufactured by an etching process in suitable sheet material, for example stainless steel. As a result of the etching process, certain parts of the original sheet material are removed so that a grid is left which defines or delimits a large number of light-permeating holes in the visor.

The visor is designed with an upper central zone 2 with a light permeability or light transmission capability of approx. 80%. This upper central zone extends from the upper edge 5 of the visor and downwards to approximately half of the height of the visor. In the lateral direction, it covers approximately half of the width of the visor. In the illustrated embodiment, the upper central zone is approximately rectangular in configuration, but may also have more rounded-off shape.

Below and to the sides of the upper central zone, there is an intermediate zone 3 with a light transmission capability of approx. 70%. At the centre line 1 of the visor, this intermediate zone has a height of the order of magnitude of 1/4 of the total height of the visor. Further, it extends from the vertical side edges of the upper central zone approximately half way out towards the side edges 6 of the visor.

The remaining zone of the visor, i.e. its side edge regions and lower region form a lower edge zone 4 with a transmission capability for light of the order of approx. 60%.

A large light transmission capability as in the upper central zone 2 however entails that the remaining material in the grid is only 20% of the total surface. It follows from this that a region of the visor with such a high transmission capability can be mechanically weaker than that which applies to the lower edge zone with a light transmission capability of the order of 60% where the grid constitutes 40% of the original sheet material.

By placing the different zones 2, 3 and 4 of the visor in the above-described manner in relation to one another, there will be obtained a central view area with a superior light transmission capability and lower and side areas with above all great mechanical strength and affording good protection against flying objects and penetration.

Fig. 2 shows detail magnifications of the areas A, B and C shown in Fig. 1. It will be apparent from Fig. 2 that the holes in the different zones 2, 3 and 4, respectively of the visor have the same shape but different sizes. This is achieved in that the holes 7, 8 and 9 have the same distance centre to centre in both the horizontal and vertical directions. The result will be that the bars included in the grid which, thus, are left in place on etching of the original sheet material, are of different widths in the alternatives A, B and C.

It will further be apparent from Fig. 2 that the holes 7, 8 and 9 are all hexagonal in configuration with considerably shorter extent in the horizontal direction than in the vertical direction. As a result, the holes are tall and narrow, which has proved to afford major advantages by a reduction in reflection. This form also entails that randomly shaped particles which hit the visor with random orientation have a considerably smaller chance of passing through the holes in the same size ratio between the particles and the holes than would be the case if the holes had had the

same lateral extent as vertical extent while retaining surface area, i.e. the same degree of transmission.

In part figure A in Fig. 2, in the illustrated embodiment the hole 7 has a total vertical extent of 4.0 mm and a total width of 1.5 mm. The corresponding values for Fig. B are 3.82 mm and 1.38 mm. In alternative C, the height is 3.65 mm while the width is 1.25 mm. The width of the grid bars defining the holes is, in alternative A 0.25 mm, in alternative B 0.38 mm and in alternative C 0.5 mm.

The above-described design and construction of the grid and the holes 7, 8 and 9 lacks irregularities in the grid, for which reason it need not be feared that the grid zones with different transmission capabilities do not "fit together" in the interface area. Further, the above-described construction entails that the borderline between the zones of different transmission capabilities may be formed in principle in any optional manner.